Domain Controller and Client VM Setup in Azure
Aayush Ghimire
July 2025

Project Overview

Objective:
Deploy a Windows Server 2025 Domain Controller and a Windows 11 Client VM in Microsoft Azure, configure network connectivity, and verify DNS resolution and communication between the two systems.

Summary:
This project involved setting up a domain controller (DC-1) on Windows Server 2025 and a client machine (Client-1) on Windows 11 within the same Azure virtual network. Key configurations included assigning a static private IP to the domain controller, modifying DNS settings on Client-1 to point to DC-1, and verifying successful network communication and DNS resolution using PowerShell tools.

Tools & Technologies Used

- Microsoft Azure Portal
- Windows Server 2025 (DC-1)
- Windows 11 Pro VM (Client-1)
- Azure Virtual Network and Subnet
- PowerShell
- Remote Desktop Protocol (RDP)

Key Tasks Performed

- Created a Resource Group and deployed a Virtual Network with Subnet

Create a resource group ...

Basics Tags **Review + create**

Automation Link

Basics

Subscription	Azure subscription 1
Resource group name	Active-Directory-Lab
Region	East US 2

Tags

None

Resource group named Active-Directory-Lab created

Create virtual network ...

Basics Security IP addresses Tags **Review + create**

View automation template

Basics

Subscription	Azure subscription 1
Resource Group	Active-Directory-Lab
Name	Active-Directory-VNet
Region	East US 2

Security

Azure Bastion	Disabled
Azure Firewall	Disabled
Azure DDoS Network Protection	Disabled

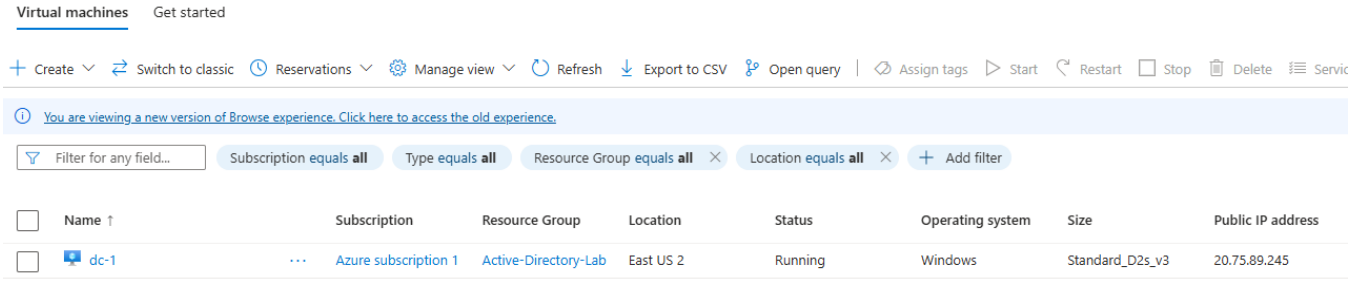
IP addresses

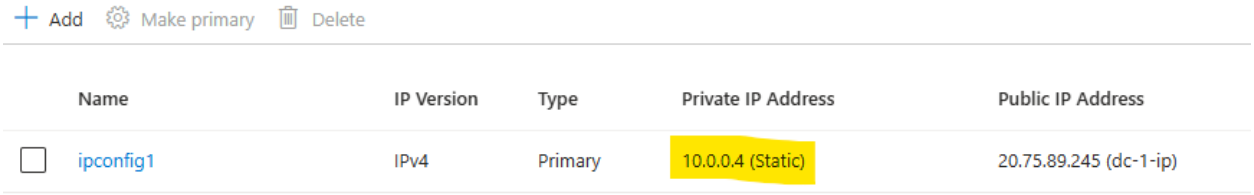
Address space	10.0.0.0/16 (65,536 addresses)
Subnet	default (10.0.0.0/24) (256 addresses)
- Private subnet	Enabled

Tags

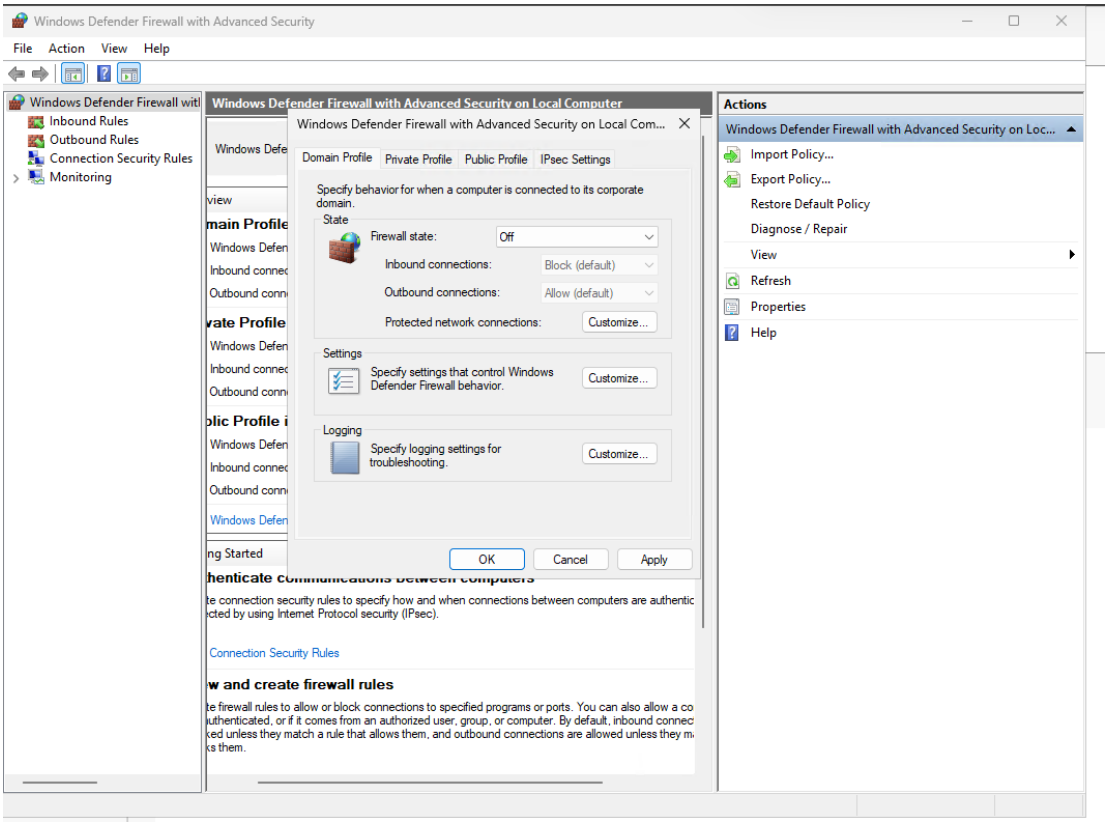
Virtual Network named Active-Directory-VNet created

- Provisioned “DC-1” VM (Windows Server 2022) and set its NIC Private IP to static



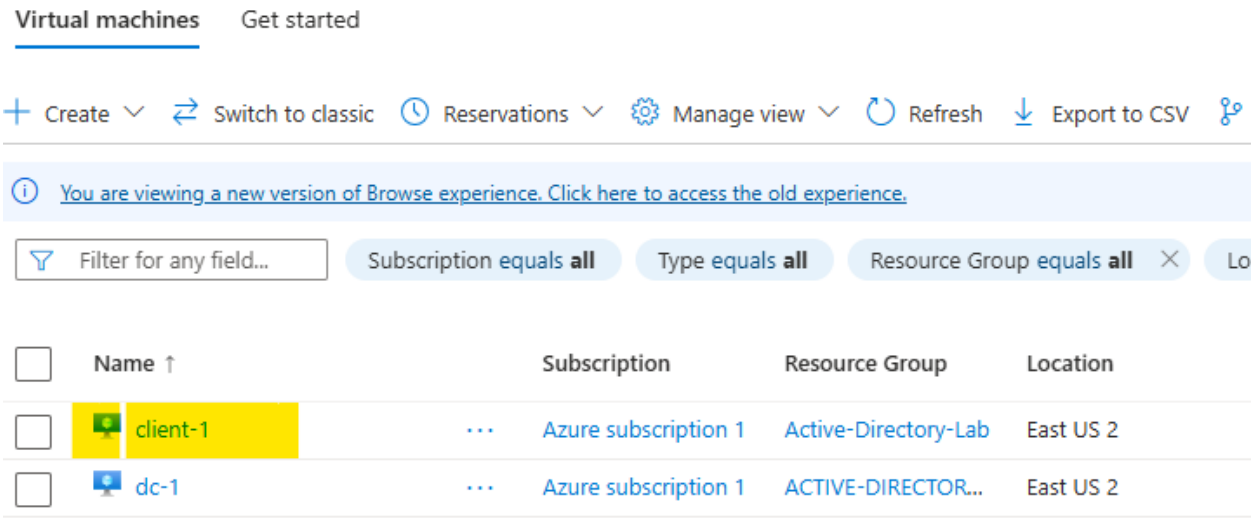


- Disabled Windows Firewall on DC-1 for testing purposes

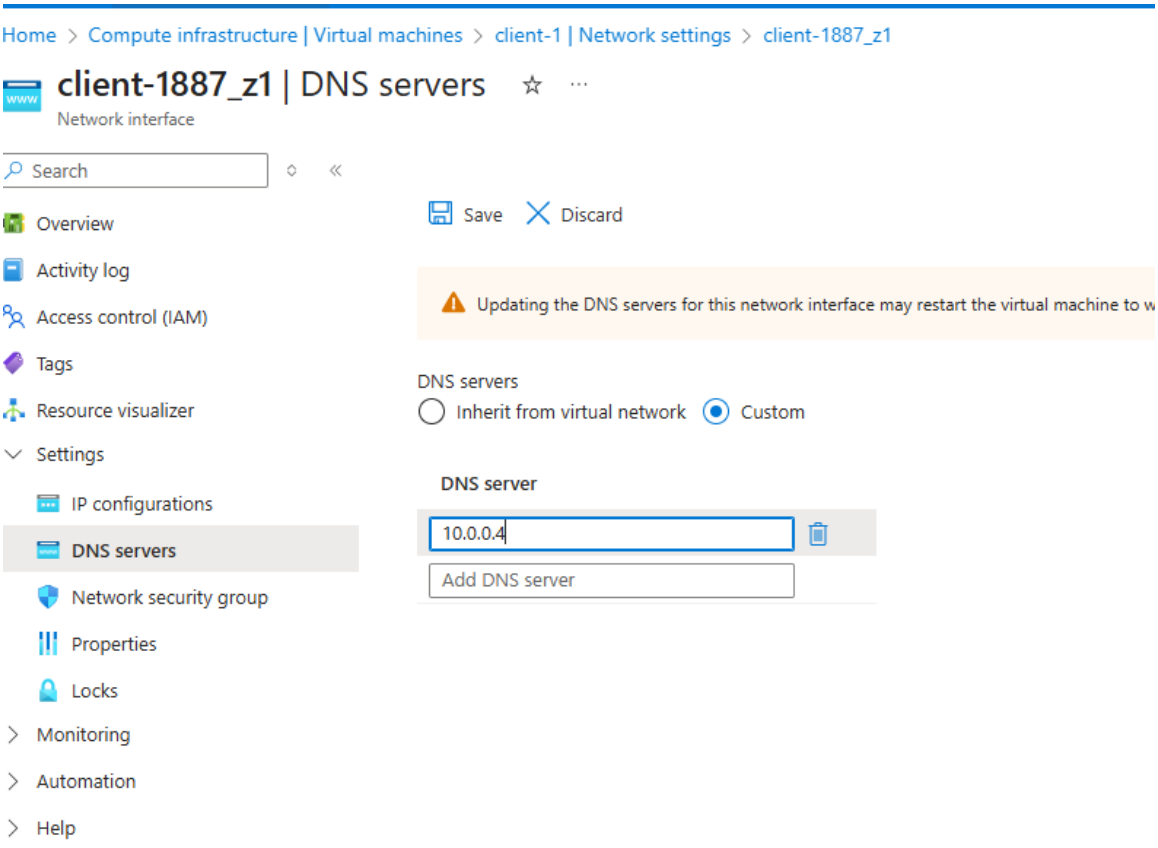


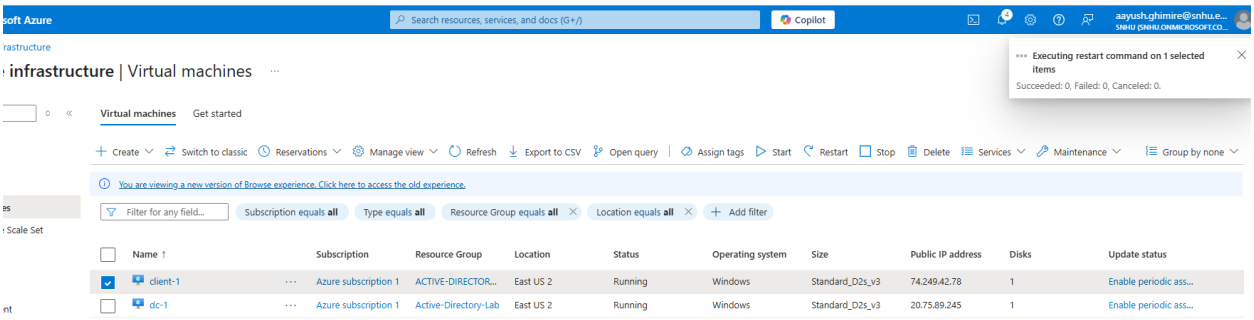
Changed ipconfig from dynamic to static

- Created “Client-1” VM (Windows 11), attached it to the same region and VNet



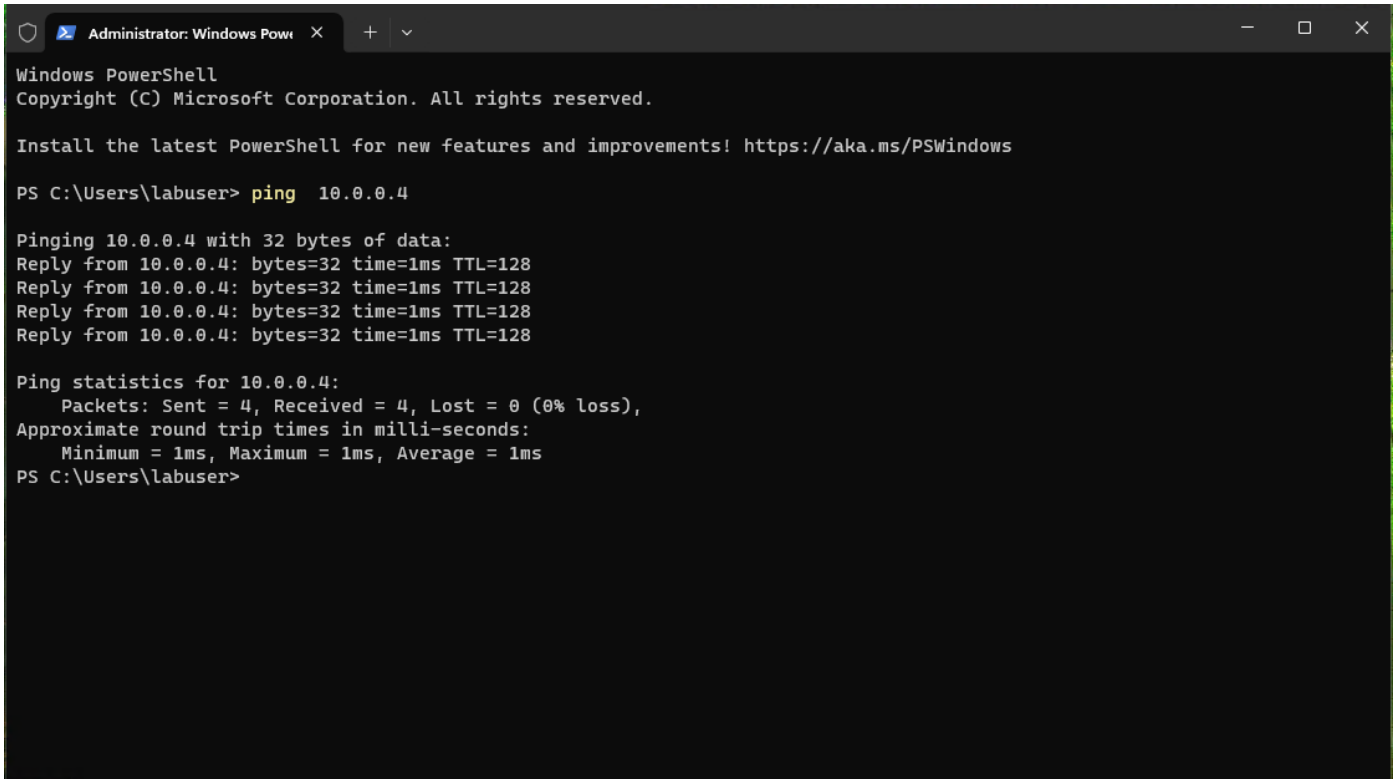
- Configured Client-1’s DNS to point to DC-1’s private IP and restarted the VM



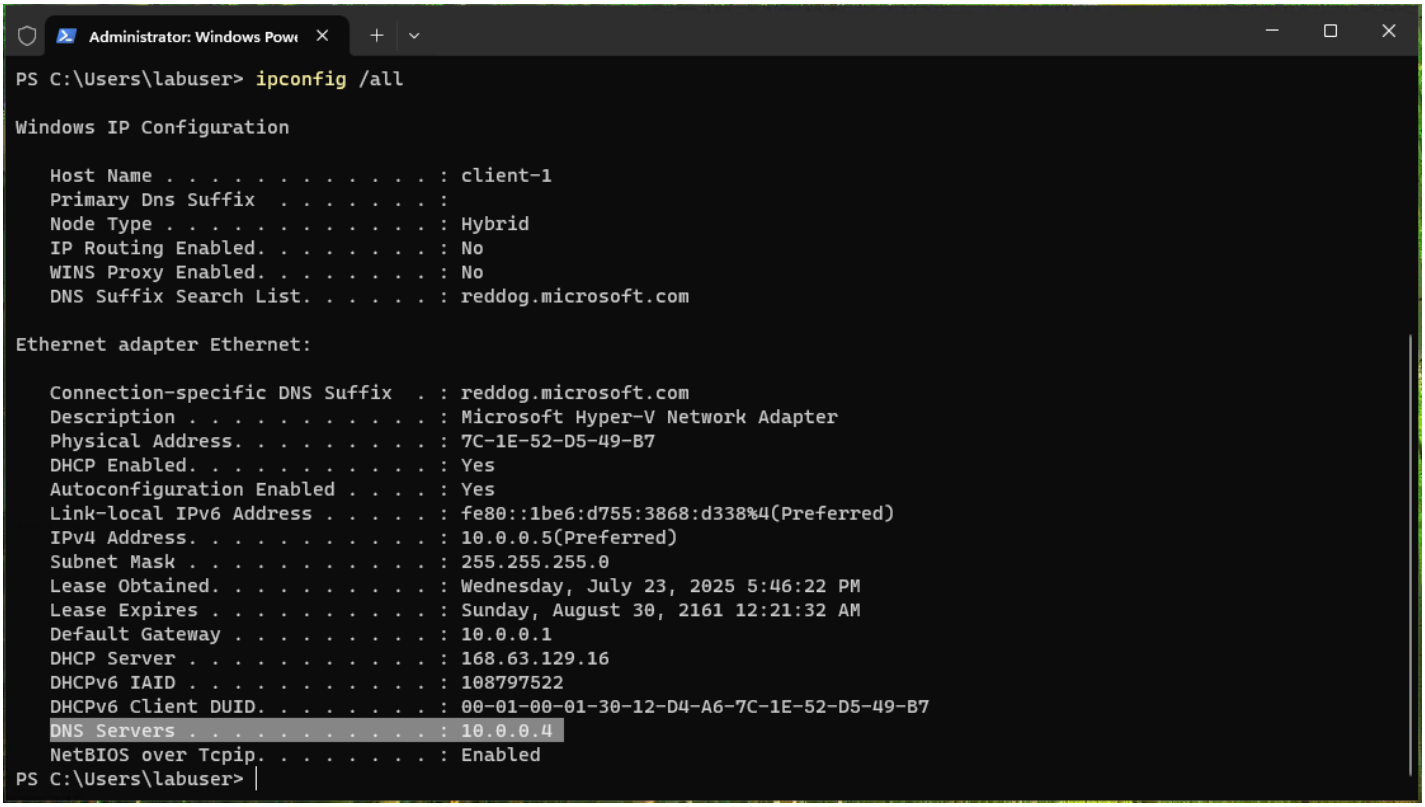


Restarting client 1

- Verified connectivity by successfully pinging DC-1 from Client-1 using ping cmd



- Confirmed DNS settings on Client-1 using ipconfig /all in PowerShell



Skills Demonstrated

- Azure VM provisioning and network configuration
- Static IP and DNS setup in virtual environments
- Client-server connectivity troubleshooting
- PowerShell command-line network diagnostics
- Understanding of domain controller and DNS interactions

Challenges & Solutions

Challenge: Ensuring proper DNS resolution between VMs
Solution: Assigned static IP to DC-1 and correctly configured Client-1's DNS settings followed by restart to apply changes

Results & Takeaways

- Successfully configured a domain controller and client environment in Azure

- Gained practical experience with virtual networking, DNS resolution, and connectivity validation
- Strengthened skills in cloud-based infrastructure setup and testing